

**To:** CN=Jayne Carlin/OU=R10/O=USEPA/C=US@EPA[]  
**Cc:** []  
**From:** CN=Jayne Carlin/OU=R10/O=USEPA/C=US  
**Sent:** Thur 2/23/2012 1:16:48 AM  
**Subject:** Fw: Roads and TMDLs, Connectivity Standards etc.  
[billw@pacificwatershed.com](mailto:billw@pacificwatershed.com)  
[mary@pacificrivers.org](mailto:mary@pacificrivers.org)  
[www.pacificrivers.org](http://www.pacificrivers.org)

----- Forwarded by Jayne Carlin/R10/USEPA/US on 02/22/2012 05:16 PM -----

**From:** David Powers/R10/USEPA/US  
**To:** michie.ryan@deq.state.or.us, SEEDS Joshua <SEEDS.Joshua@deq.state.or.us>, Waltz.David@deq.state.or.us <Waltz.David@deq.state.or.us>, Alan Henning/R10/USEPA/US@EPA, Peter Leinenbach/R10/USEPA/US@EPA, Jayne Carlin/R10/USEPA/US@EPA, Jayne Carlin/R10/USEPA/US@EPA  
**Cc:** foster.eugene@deq.state.or.us, ades.dennis@deq.state.or.us  
**Date:** 12/12/2011 03:46 PM  
**Subject:** Fw: Roads and TMDLs, Connectivity Standards etc.

FYI

---

David Powers  
 Regional Manager for Forests and Rangelands  
 USEPA Region 10, OOO  
 805 SW Broadway, Suite 500  
 Portland, OR 97205  
 503-326-5874  
[powers.david@epa.gov](mailto:powers.david@epa.gov)

It would be very tough to get to zero discharge from logging roads regardless of how good your BMPs are and how well you implement them. But a sound road assessment and management program with clear targets and timelines are key in making progress. I think I may have already sent the Bear Creek attachments to Ryan and Josh but thought that Deny and others might be interested too. I've also included WA and OR logging road related documents and selected excerpts that may be relevant to both TMDL and permit efforts.

Excerpt from ISRP (independent science review panel) report on WA forest roads... the WA State Forests and Fish "RMAP" roads program is a national model for how to manage logging roads and has set timelines for forest land owners to fix logging road problems.

A high percentage of roads in the sample units across the state were reported to either have RMAP work complete, or already be up to current road rule standards, with over half of the sample units reported to have at least 85 percent of road length meeting standards. An average of 11 percent of the road network was hydrologically connected (delivered sediment) to streams or wetlands. Across the state, 62 percent of the sample units met the Forests and Fish Report (FFR) hydrology performance target (miles of delivering road/miles of stream) and 88 percent of the units met the FFR sediment performance target (tons of delivered sediment/year/miles of stream).

Statewide, no relationship was found between length of road delivering in a sample unit and percent of roads in the unit reported to be up to standards; however, a statistically significant decreasing relationship was found between sediment delivery in the sample unit and percent of roads in the unit reported to be up to standards. These findings suggest that, while there may be locations where there is higher hydrologic connectivity or sediment input from roads, overall across the state there is a trend of decreasing sediment input as roads are brought up to standards.

It is recommended that the monitoring project continue with next planned monitoring period (planned

interval of 5 years) to confirm the findings that, in general, roads conditions improve and they meet the performance metrics as they are brought up to FFR standards.

Excerpt from OR Dept. of Forestry report evaluating the effectiveness of forest road BMPs in minimizing sediment impacts. OR's forest road BMPs are similar to WA's but the OR FPA does not require forest landowners to develop road management and abandonment similar to WA State's Forests and Fish Rules RMAP program. Without an RMAP like requirement problem roads are not consistently found and fixed.

During the summer of 1996 road drainage information was collected concurrently with the landslides information... Most roads were found to be in a condition where serious surface erosion was not occurring. Road drainage appeared similar to that of the original design. Prior to the Forest practices Act (1971), most roads were designed for effective transportation and not control of sediment. A fairly large percentage of cross drainage culverts were found to be at reduced capacities because of inlet blockage, although most of these blockages were not resulting in any increase in erosion or sediment delivery to streams. Based on the combined data set, twenty-five percent of road length clearly discharged into streams, and an additional six-percent may have delivered water and sediment into streams.

[attachment "ISPR Draft Road Monitoring PhaseII Report 12-08-09.doc" deleted by Jayne Carlin/R10/USEPA/US] [attachment "OR logging road reportRdRptDEQ1996.pdf" deleted by Jayne Carlin/R10/USEPA/US]

---

David Powers  
Regional Manager for Forests and Rangelands  
USEPA Region 10, OOO  
805 SW Broadway, Suite 500  
Portland, OR 97205  
503-326-5874  
powers.david@epa.gov

----- Forwarded by David Powers/R10/USEPA/US on 11/01/2011 07:59 AM -----

From: Mary Scurlock <mary@pacificrivers.org>  
To: David Powers/R10/USEPA/US@EPA  
Cc: Chris Frissell <chris@pacificrivers.org>  
Date: 07/01/2011 02:39 PM  
Subject: Roads and TMDLs, Connectivity Standards etc.

Dear Dave:

I wanted to pass along the attached information which might prove useful to you as you navigate the world of roads and sediment delivery -- under either a point or a nonpoint regulatory framework. Some of this comes from Pacific Watershed Associates' work in the North Coast of CA. who did several studies in Bear Creek for Palco, locale of some important road- and sediment-related CWA litigation.

10% General Connectivity Goal, 5% lower in some places? PWA recalls that numerous sediment TMDL's for CA North Coast watersheds have targets of 5% to 10% connectivity. PWA assures us that it really takes a lot of work to get to 5%, and it's not that easy if you have a high road density or a high drainage density. For a ridge road system that would be pretty easy to attain 5%. PWA feels that ten percent is typically an attainable target for most forest and ranch road systems if you are serious and work hard at it. [This would rock if we could roads down to this! Consider that on FS lands in Sucker Creek in the Illinois -- that data I showed at the Law School from the subbasin we assessed last year -- was 42% connected and 45% had "potential to deliver"!]

1998 Bear Creek Roads Action Plan: The initial study (see attached) was done in 1998 after a large magnitude storm event (December 1997) which triggered numerous hillslope landslides, road failures, and stream crossing washouts/diversions. The study consisted of a detailed sediment source inventory for the watershed, as well as a sediment control plan and was focused mostly on episodic risks. This study is in the public record (only Figure 1 is missing -- Bill couldn't find the location map). Palco implemented most of the proposed erosion prevention work over the following years with the aim of reducing the likelihood of storm-triggered erosion events (not so much connectivity).

Connectivity Study: In 2004 PWA did a further analysis of road system hydrologic connectivity which was completely focused on hydrologic connectivity from road surface and ditch drainage. (This was apparently done for Palco's lawyers, but it was never

released or made part of the public record. I have attached a summary of the general methods we employed for you to look over. We have never gone back to Palco (now Humboldt Redwood Company- HRC) and their lawyers to see if we could release/publish that data. I don't think they would have a problem, but we have never asked. (If there is interest, PWA would be willing to ask HRC about our releasing the data from the Bear Creek connectivity study. (They may not even know it exists since Palco is no longer at the wheel there). See the calculation of "stormproofing effectiveness" they use. . .

PWA also did similar detailed sediment investigations and prepared sediment control plans for three other Palco watersheds (Jordan Creek, Freshwater Creek and Elk River) in 1998 and 1999. A lot of that erosion prevention work has also been implemented.

We think it is the case that numerous sediment TMDL's for most North Coast watersheds have targets of 5% to 10% connectivity. {I need to check this} PWA assures us that it really takes a lot of work to get to 5%, and it's not that easy if you have a high road density or a high drainage density. For a ridge road system that would be pretty easy to attain 5%. PWA feels that ten percent is typically an attainable target for most forest and ranch road systems if you are serious and work hard at it.

FOOD FOR THOUGHT: I'm pretty sure I've said this before, but PWA would be a very good expert source for EPA and/or for ODEQ. In fact, they would be very pleased to work with you on technical issues related to realistic connectivity targets (not to mention that they already have a GSA Advantage contract which makes doing projects with them a snap for you feds). They bring a lot to the table and have loads of real world experience and have done some solid thinking about many issues you are tackling -- including possible sliding scale targets for watersheds depending on the road network and stream system (drainage density), connectivity targets for various types of road drainage systems (road surface, ditches, road drainage structures, culverts, etc), BMP's and technical standards for reducing connectivity, cost estimates, pilot project connectivity studies, etc.

Contact is:

Bill Weaver, Principal  
Pacific Watershed Associates  
P.O. Box 4433, Arcata, CA 95518  
707-839-5130; 707-839-8168 fax  
billw@pacificwatershed.com

Feel free to pass any of this on to others working on these issues.

Mary Scurlock  
Policy Director  
PACIFIC RIVERS COUNCIL  
1326 SW 16th Avenue  
Portland, Oregon 97201  
v. 503-228-3555  
f. 503-228-3556  
c. 503-320-0712  
mary@pacificrivers.org  
www.pacificrivers.org

[attachment "1998 Bear Sediment Risk Report.pdf" deleted by Jayne Carlin/R10/USEPA/US] [attachment "2004 PWA Bear Creek Connectivity - methods summary.pdf" deleted by Jayne Carlin/R10/USEPA/US]